What is claimed is:

1. A transceiver-processor building block for an electronic radio system multifunction slice, the building block comprising:

a plurality of transceivers;

a processor coupled to the transceivers;

a local RF control bus inaccessible directly from outside the multifunction slice and coupled between the processor and the transceivers;

a radio network bus coupled to the processor; and

a radio network bus connector coupled to the radio network bus to provide direct accessibility to the radio network bus from outside the multifunction slice.

2. The building block of claim 1, further comprising an external control bus coupled to the processor and an external control bus connector providing direct accessibility to the external control bus from outside the multifunction slice.

3. The building block of claim 2, wherein the external control bus carries antenna configuration data.

4. The building block of claim 2, wherein the external control bus carries antenna interferometer configuration data and beam forming data.

5. The building block of claim 4, wherein the radio network bus transfers transmission coordination data and voice and user data into and out of the building block.

6. The building block of claim 5, wherein the local RF control bus carries tuning data for the plurality of transceivers.

7. The building block of claim 6, wherein the local RF control bus carries intermediate frequency bandwidth information and intermediate frequency gain characteristics for the plurality of transceivers.

8. The building block of claim 1, wherein the radio network bus carries unencrypted information and is isolated from the local RF control bus.

9. The building block of claim 4, wherein the radio network bus is isolated from the local RF control bus with electromagnetic shielding.

10. The building block of claim 1, wherein the processor includes encryption and decryption support for each transceiver in the plurality of transceivers.

11. The building block of claim 1, wherein the processor includes multilevel security software to control routing of data.

12. The building block of claim 1, further comprising encryption and decryption support circuitry coupled to the processor for each transceiver in the plurality of transceivers.

13. The building block of claim 1, wherein the local RF control bus carries control data from the processor to the transceivers.

14. An electronic radio system multifunction slice for supporting a predetermined number of communication threads, the multifunction slice comprising:

an RF aperture switch/transmitter interface;

a plurality of transceivers coupled to the RF aperture switch/transmitter interface;

a processor coupled to the transceivers;

a local RF control bus inaccessible directly from outside the multifunction slice and coupled between the processor, the transceivers, and the RF aperture/transmitter interface;

a radio network bus coupled to the processor;

a radio network bus connector coupled to the radio network bus to provide direct accessibility to the radio network bus from outside the multifunction slice; and

an avionics interface coupled to the processor, the avionics interface providing a core avionics network output and a core avionics network input.

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15. The electronic radio slice of claim 14, further comprising an external control bus coupled to the processor and an external control bus connector providing direct accessibility to the external control bus from outside the multifunction slice.

16. The electronic radio slice of claim 14, wherein the local RF control bus is restricted to carrying control data information between the processor, the transceivers, and the RF aperture switch/transmitter interface.

17. The electronic radio slice of claim 14, wherein the radio network bus carries unencrypted information and is isolated from the local RF control bus.

18. The electronic radio slice of claim 17, wherein the radio network bus transfers transmission coordination data and voice and user data into and out of the building block, the local RF control bus carries tuning data for the plurality of transceivers, and the external control bus carries antenna configuration data.

19. A method for operating a transceiver-processor building block in an electronic radio system multifunction slice, the method comprising:

providing a plurality of transceivers coupled to a processor;

communicating unencrypted data to the processor over a radio network bus coupled to the processor, the radio network bus coupled to a radio network bus connector providing direct

accessibility to the radio network bus from outside the multifunction slice;

processing the unencrypted data to form encrypted user data and control data;

processing the encrypted data to form unencrypted user data and processing the data to form control data; and

communicating the control data to the transceivers over a local RF control bus between the processor and the transceivers, the local RF control bus inaccessible directly from outside the multifunction slice, and communicating the user data to the transceivers over bi-directional baseband interfaces.

20. The method of claim 19, further comprising the step of communicating antenna configuration data over an external control bus coupled to the local RF control bus to an antenna outside the multifunction slice.

21. The method of claim 19, further comprising the step of electrically isolating the network bus from the local RF control bus.

22. The method of claim 21, wherein electrically isolating comprises electrically isolating with electromagnetic shielding.